

Post-doc position in Nantes (INSERM U 1229-RMeS FRANCE)

Notochordal differentiation and stem cell-based therapy for intervertebral disc degeneration

The research project focuses on the regenerative medicine of the intervertebral disc (IVD), and development of advanced therapy medicinal products based on the use of biomaterials and induced-pluripotent stem cells (iPSC). Degenerative disc disease (DDD) primarily affects the central part of the IVD namely the *nucleus pulposus* (NP). DDD is characterized by massive cellular alterations of the NP that ultimately result in the irreversible disappearance of notochordal cells. This project combines fundamental studies on the biology of the notochordal precursors, the maturation and physiology of the NP, innovative in vitro iPSC differentiation systems and preclinical in vivo approaches on mouse and sheep models investigating cell supplementation strategies in DDD. The project will involve cell culture and differentiation, characterization of cell phenotypes and functions (molecular biology, quantitative expression analysis: RT-QPCR, high-throughput transcriptomic analysis, single cell technology, immunofluorescence, immunohistochemistry, imaging analysis).

A 24 months-postdoctoral position (funded by H2020 European research project iPSPINE, Coord. Marianna Tryfonidou, The Netherland) working on iPSC differentiation and regenerative medicine is available, **starting from March 2019 in the Regenerative medicine and skeleton research lab, INSERM UMR1229-RMeS, Nantes University Hospital**, Director Jerome Guicheux (<http://www.rmes.univ-nantes.fr/>). Human iPSC maintenance and production will be performed in close collaboration with the DeviPS core facility (SFR François Bonamy, INSERM UMS 016, Nantes University), which is coordinated by the Dr. Laurent David (a specialist of somatic cell reprogramming; MCU-PH and coordinator of the platform). Selected candidate will work under the supervision of Dr Anne Camus, leader of “Stem Cells and Axial Skeleton Development” project in the team “skeletal physiopathology and joint regenerative medicine” headed by Jerome Guicheux.

Candidate will be a highly motivated biologist with **strong background and expertise in stem cell biology** (stem cell differentiation and culture techniques). Good written and oral communication skills are essential, along with the ability to work in a team. Autonomy in experimental design and data analysis is a prerequisite.

Applicants are invited to send a CV with skills and complete list of publications, a cover letter including a brief statement of past scientific experiences and achievements and name and email address of 2-3 references to Anne CAMUS, Jerome GUICHEUX and Laurent DAVID.

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